## CONTROL OF DIAMONDBACK MOTH BY STERILE INSECT TECHNIQUE (MAR/5/009) D4 New

CORE FINANCING

| YEAR | Experts | | Equipment | Fellowships | | Scientific Visits | | Training | Sub-contracts | Misc. Comp. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | m/d | US $ | US $ | m/d | US $ | m/d | US $ | US $ | US $ | US $ | US $ |
| 1995 | 4/ 0 | 45,600 | 30,000 | 3/ 0 | 9,900 | - | - | - | - | - | 85,500 |
| 1996 | 6/ 0 | 72,000 | 15,000 | 6/ 0 | 20,700 | - | - | - | - | - | 107,700 |
| 1997 | 4/ 0 | 50,400 | 15,000 | 9/ 0 | 32,400 | - | - | - | - | - | 97,800 |

First Year Approved: 95

**OBJECTIVES:** To use the insect sterile technique as part of an integrated pest management programme for control of the diamondback moth.

**BACKGROUND:** Extensive damage is caused to cruciferous vegetables in Mauritius by the diamondback moth (DBM), which has developed increased resistance to insecticides, virtually all of which have become ineffective. Excessive use of insecticides has in turn induced a reduction of populations of the DBM's natural enemies. The problem has been aggravated by the cultivation of its hosts throughout the year without the crop rotation that was formerly practised. The feasibility of controlling the DBM by the sterile insect technique (SIT) in an integrated pest management programme was assessed in 1993 under the project MAR/5/006. The Entomology Division of the Ministry of Agriculture and Natural Resources has now requested Agency assistance in the introduction of SIT. The Agency will help to establish a facility suitable for mass rearing of DBM, undertaking ecological surveys and establishing a field demonstration area for subsequent demonstration of the new control principles to vegetable growers. Suitable methods for sterilization, pre-release handling, dispatch, transport and release of sterile insects will be elaborated. The feasibility for genetic control of DBM in Mauritius will be confirmed in field cage tests and on a small demonstration plot. An integrated approach to biological and genetic methods for DBM control will be tested on a small scale in 1997. It is believed that a number of insect species, including two species of fruit fly and the sugar cane borer, could be controlled by this technique.

**NATIONAL COMMITMENT:** Staff; laboratory facilities and equipment; a vehicle; operating costs.

**AGENCY INPUT:** Expert services in DBM rearing, ecology and SIT methodology; diet ingredients and laboratory equipment; fellowship training. Further expert services, equipment and training are foreseen for 1997.

**IMPACT:** Reduction of the DBM population below economically damaging levels will lead to increased vegetable production. A limited use of insecticides would reduce environmental pollution.